



Tennessee Valley Authority, 1101 Market Street, Chattanooga, Tennessee 37402-2801

September 19, 2002

Rules and Directives Branch
Office of Administration
U.S. Nuclear Regulatory Commission
Washington, D.C. 20555-0001

Gentlemen:

NUCLEAR REGULATORY COMMISSION (NRC) - COMMENTS ON PROPOSED GENERIC COMMUNICATION - CONTROL ROOM ENVELOPE HABITABILITY (CRH) - TAC NO. MB2788 (VOL. 67 *FEDERAL REGISTER* 31385, DATED MAY 9, 2002)

TVA appreciates the opportunity to comment on the proposed generic communication. The original comment period expired on August 7, 2002; however, the NRC extended the expiration date 60 days after public regional meetings were held by NRC in July and August 2002. TVA previously provided comments on a series of related draft regulatory guides in letters to NRC dated June 28, 2002 and March 15, 2002. These included:

- DG-1114, *Control Room Habitability at Light-Water Nuclear Power Reactors*
- DG-1115, *Demonstrating Control Room Envelope Integrity at Nuclear Power Reactors*
- DG-1111, *Atmospheric Relative Concentrations for Control Room Habitability Assessments at Nuclear Power Plants, and*
- DG-1113, *Methods and Assumptions for Evaluating Radiological Consequences of Design Basis Accidents at Light-Water Nuclear Power Reactors*

TVA's comments on the subject generic communication are provided in the enclosure. If you have any questions, please contact R. M. Brown at (423) 751-7228.

Sincerely,

A handwritten signature in black ink that reads "Mark J. Burzynski".

Mark J. Burzynski
Manager
Nuclear Licensing

Enclosure

cc (Enclosure):

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ENCLOSURE

COMMENTS ON PROPOSED GENERIC COMMUNICATION

COMMENT NUMBER	FED. REG. PAGE	FED. REG. COLUMN	PARA. # OR TITLE	COMMENT	PROPOSED REVISION
1.	31386	3	Background 2 nd paragraph	<p>The draft generic letter states:</p> <p>“Unlike the DP test, the E741 test measures the total CRE leakage from all sources. It is well suited for assessing the integrity of positive or neutral-pressure CREs.”</p> <p>Several concerns exist with these statements. They are that ASTM E741:</p> <ul style="list-style-type: none"> • Does not measure leakage. Leakage is inferred through a variety of indirect measurements and analyzes. • Determines total leakage and does not define the method for inferring the spilt between filtered and unfiltered leakage. • Does not provide guidance on defining the uncertainty associated with the inferred values of filtered and unfiltered leakage. • Does not provide guidance to ensure that proper test configurations, mixing of tracer gas, or which form of the test should be performed in a given application. • Fails to define how uncertainties should be used in the assessments of control room habitability. For a pressurized control room the uncertainty can be significantly larger than the inferred mean leakage. 	Revise the draft generic letter to address the bulleted comment items, and add an explanation for concluding that the single volume ASTM E741 test method is appropriate for the complex volume of a control room.

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				<ul style="list-style-type: none"> Does not address application of the test results to meteorological conditions that differ from those occurring at the time of the actual testing. Does not reflect that verbatim compliance is not possible and has not been achieved in control room tests to date. 	
2.	31386	1	Background, 1 st paragraph	<p>The NRC states, "The CRE encompasses the control room and . . ."</p> <p>The term "control room envelope" is not a term used in previous regulation and is inconsistently used in Draft Regulatory Guides DG-1114 and DG-1115. The CRE term has the potential to infer that other areas of the plant are included under GDC 19 which were not previously discussed. GDC 19 refers explicitly to the control room, and the SRP expands this area definition but restricts it based on occupancy.</p>	Revise the text of the draft generic letter to clarify that the CRE encompasses the control room and other rooms and areas within the confines of the control room boundary. The control room boundary is the physical surfaces (e.g., ducts, dampers, floors, ceilings, walls, doors) that separate the CRE from other plant areas.
3.	31386	3	Background - last paragraph	<p>ASTM E741 testing alone should not be identified as having helped to identify deficiencies. The DP surveillance tests have also helped to identify potential system deficiencies.</p> <p>ASTM E741 testing does not identify the exact source of inleakage. In order to identify the actual sources of inleakage, a component test might be required. Furthermore, many of the examples that affect CRE and CREHS performance could be areas of exfiltration for positive pressure CREs that would more likely be identified as a result of adverse DP surveillance results rather than E741 testing.</p> <p>As written, the paragraph overstates E741 testing benefits. Revise the paragraph to delete reference to E741 testing.</p>	<p>Revise the first sentence of the paragraph to read as:</p> <p>"Testing has helped to identify a spectrum of CREHS deficiencies that affect system design, construction, and quality; system boundary construction and integrity; and technical specification surveillance requirements."</p>

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4.	31386	2	Background	<p>The text states that:</p> <p>“Plants with a positive-pressure CRE have generally implemented testing programs. These programs verify those ventilation systems serving the CRE can maintain the CRE at a positive differential pressure relative to adjacent areas.”</p> <p>These are surveillances, not test or testing program, unless the NRC staff has authorized the licensee to use alternative approach. NRC approved alternatives include pressurization flow rates, DP across filtration banks, etc.</p> <p>The text should be revised to describe what exists at plants for determining positive pressure.</p>	<p>Revise the sentence to read:</p> <p>“Most plants with a positive-pressure CRE have a <u>technical specification surveillance</u> to verify those ventilation systems serving the CRE can maintain the CRE at a positive differential pressure relative to adjacent spaces.”</p>
5.	31386	3	Background, 3 rd paragraph	<p>The discussion of the DP surveillance is not characterized accurately.</p> <p>The paragraph implies the surveillance is deficient. This characterization is incorrect. The surveillance correctly determines the ability of the pressurization system to pressurize the control room envelope. This ensures that inleakage is not possible across major portions of the control room boundary. However, the assertion that the surveillance cannot measure directly inleakage is correct. But, it is not intended to measure inleakage directly.</p> <p>The second assertion that the surveillance cannot determine whether there are unrecognized sources of pressurization is correct.</p>	<p>Revise the text to accurately describe what the DP surveillance does and does not accomplish.</p> <p>Delete the first three sentences of the paragraph and change it to read:</p> <p>“The DP surveillance only ensures that in-leakage does not exist across major portions of the control room boundary.”</p> <p>Change fourth sentence to read:</p> <p>“The DP surveillance cannot determine”</p>
6.	31387	2	Discussion, 1 st paragraph	<p>The final sentence states:</p> <p>“It is, therefore, imperative to the health and safety of the public that operators are confident of their safety in the CRE at all times.”</p> <p>This statement is presented as an opinion. Industry</p>	<p>Revise the first paragraph of the discussion section to read:</p> <p>“The NRC is concerned that some licensees have not maintained adequate configuration control over their CREs and have not corrected identified design and performance deficiencies. Configuration control</p>

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				<p>is unaware of any research that demonstrates instances where an operator's perception of his safety based on CRH would affect his confidence in his abilities to perform his duties.</p> <p>Statements of opinion should not be included in regulatory documents.</p>	must be maintained to ensure that operators can function in a habitable environment."
7.	31387	3	Discussion, 2 nd full paragraph	<p>The draft GL states:</p> <p>"Addressees are encouraged, but not required, to work closely with industry groups on the coordination of their responses. Coordinating the responses is more efficient, and public confidence may ensue from a uniform approach to demonstrating compliance with the design bases of their CREs."</p> <p>There is no basis for the statement that public confidence will ensue if the licensees coordinate their responses to this draft GL. Furthermore, the phrase addressing public confidence does not add substance to the draft generic letter.</p>	<p>Rewrite the sentence to read:</p> <p>"Coordinating the responses is more efficient with a uniform approach to demonstrating compliance with the design bases of their CREs."</p>
8.	31388	1	Discussion	<p><u>Editorial Comment</u></p> <p>The last paragraph before the Requested Information section states:</p> <p>"Licensees unable to confirm item 1 under the Required Information section may also use DG-1114 to develop and implement corrective actions."</p> <p>The text should be revised to indicate that it is the "Requested Information."</p>	Revise "Required" to "Requested."
9.	31388	1	Required Information Paragraph 1(b)	<p>This paragraph states:</p> <p>"That the most limiting unfiltered leakage into your CRE (and filtered leakage if applicable) is</p>	Clarify the intent of this paragraph so that proper infiltration rates may be used with each type of assessment. Revise the paragraph to read:

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				<p>incorporated into your fire and hazardous chemical assessment, and CRE integrity preserves reactor control capability or alternate shutdown panel in the event of a fire.”</p> <p>This infers that the same limiting unfiltered inleakage values should be used to assess all events. This may not be true since systems lineups may differ for a radiological, fire, and hazardous chemical events.</p> <p>Furthermore, Draft Regulatory Guide DG-1114, Regulatory Position 2.6, states:</p> <p>“No regulatory limit exists on the amount of smoke allowed in the control room. Therefore, the plants ability to manage smoke infiltration is assessed qualitatively.”</p> <p>This Regulatory Position seems to imply that the fire assessment would not need to specify a specific inleakage value.</p>	<p>“(b) That the most limiting inleakage into your CRE is incorporated into your hazardous chemical assessments. This inleakage may differ from the value assumed in your design basis radiological analyses. Also confirm that the reactor control capability is preserved from either the Control Room or the alternate shutdown panel in the event of a fire.”</p>
10.	31388	1	Required Information Paragraph 1(c)	<p>Paragraph 1.(c) has extraneous text addressing ASTM E741 tracer gas testing as it relates to CRE integrity. The request should focus solely on how and on what frequency CRE integrity is confirmed.</p>	<p>Revise Paragraph 1.(c) to read as:</p> <p>“(c) That if your facility has a technical specification surveillance requirement for CRE integrity, it remains adequate. If your facility does not currently have a technical specification surveillance requirement for CRE integrity, explain how and on what frequency you confirm your CRE integrity.”</p>